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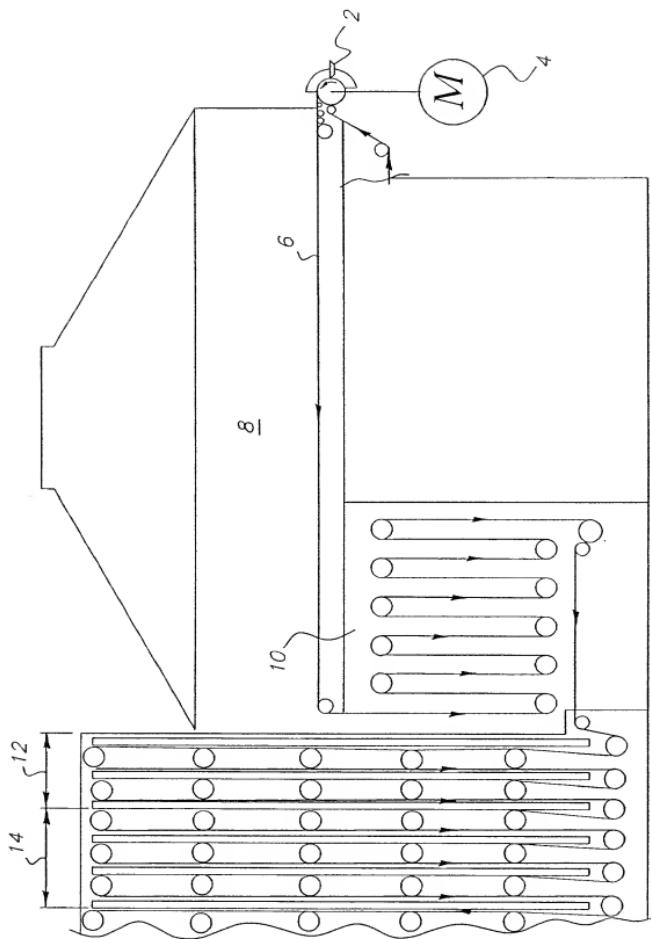


FIG. 1

10036828.122101

Fig. 2A

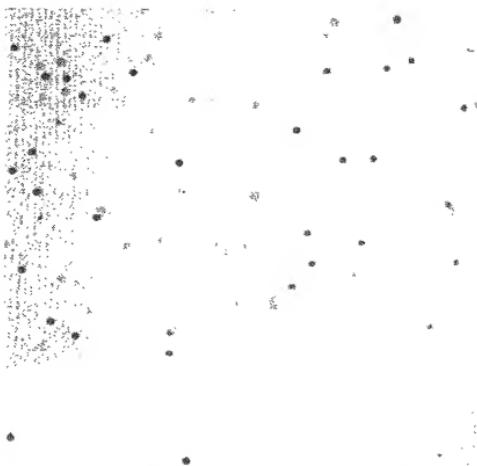
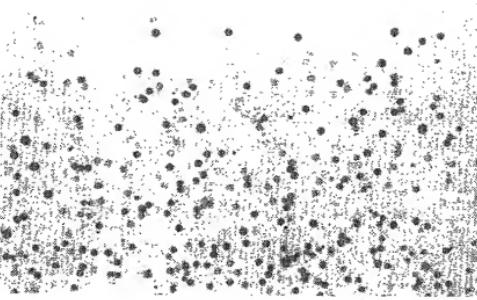


Fig. 2B



1.0036828-122101

Fig. 3A

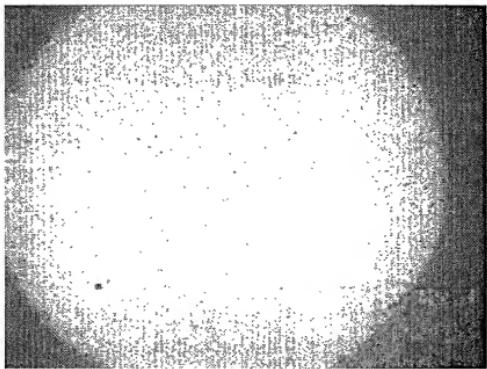
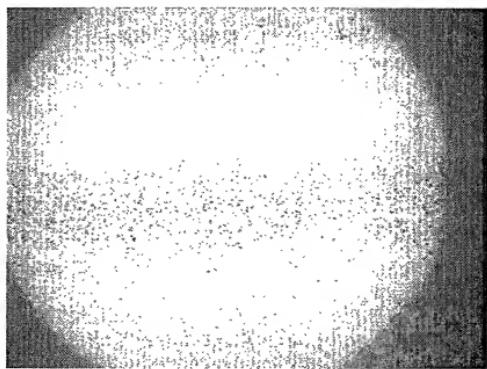


Fig. 3B



10237-82896007

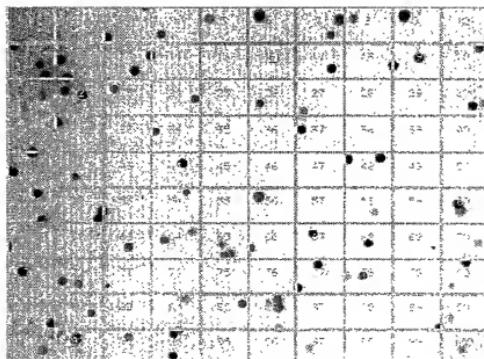


FIG. 4A

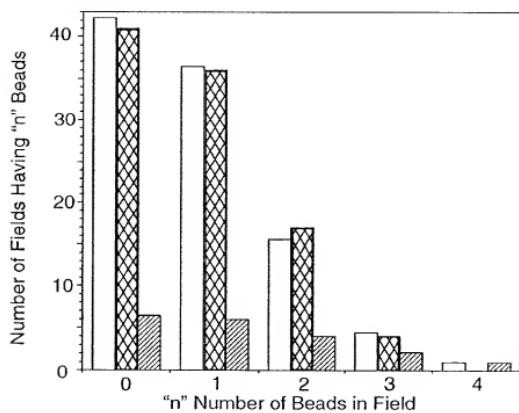


FIG. 4B

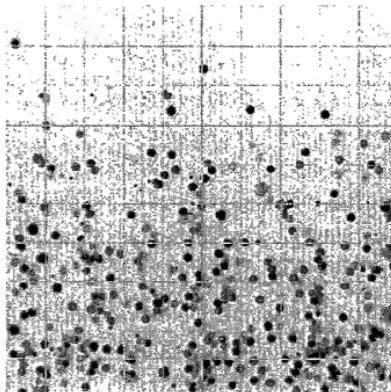


Fig. 5A

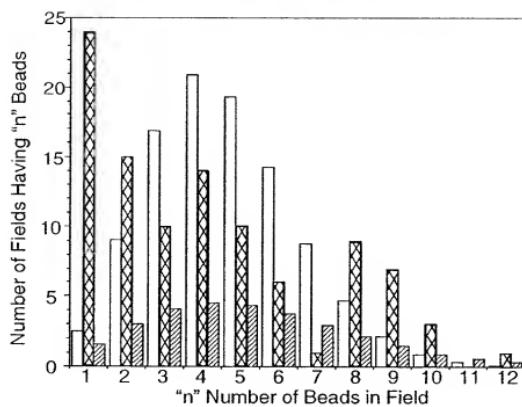
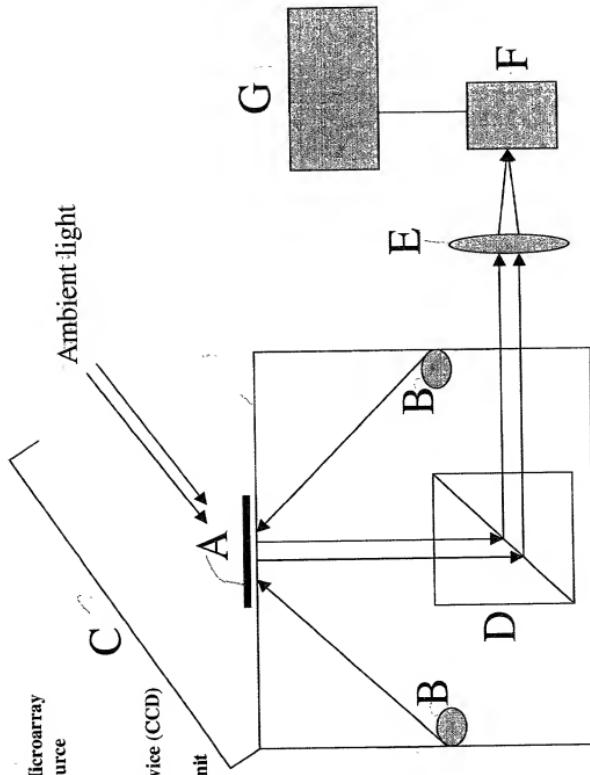


Fig. 5B

**Description of Schematic Diagram**

- A. Color Beads DNA Microarray
- B. Illumination light source
- C. Cover Lid
- D. Light Deflector
- E. Lens
- F. Charge Coupled Device (CCD)
- G. Camera
- Computer control unit



7:47

# Workflow Chart of Nucleic Acid Random Microarray Analysis System

Step 1. Hybridization of chemiluminescently/fluorescently labeled nucleic acid sample onto the microsphere coated microarray



Step 2. Removal of non-specifically bound chemiluminescently/fluorescently labeled nucleic acid by washing the microarray in buffer solution.



Step 3. Whole frame imaging capture of chemiluminescence/fluorescence image resulted from the hybridization interaction of unknown nucleic acid sequences with probe sequences (IMAGE1).



Step 4. Whole frame imaging capture of the microarray under bright-field illumination to obtain microsphere color signature/barcode image (IMAGE2).



Step 5. Identification of unknown nucleic acid in the sample solution by computer analysis of IMAGE1 and IMAGE2 using pattern recognition algorithm.

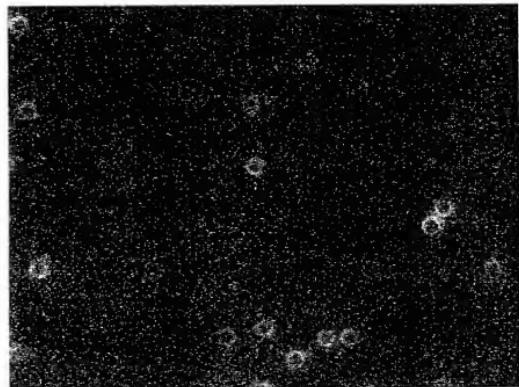
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Fig 8 A



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Fig 8 B



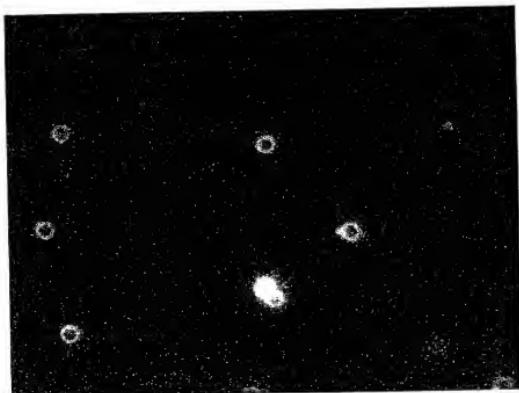
10036828.122101

Fig 9A

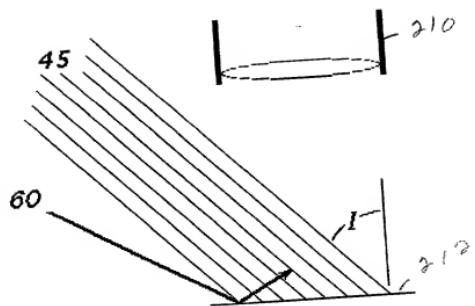


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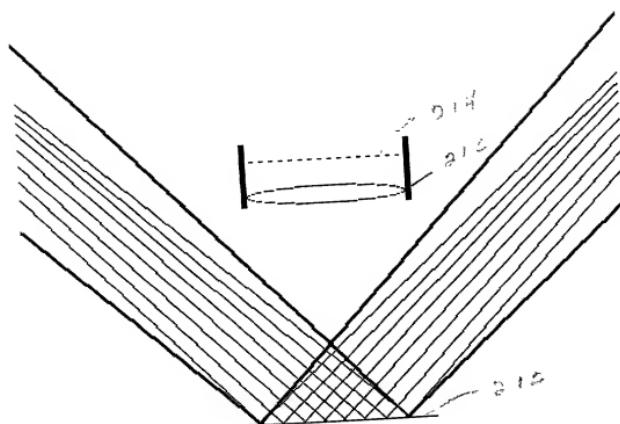
Fig 9 B



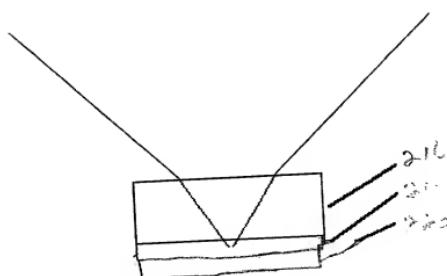
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F16.107



F16.108



10036823.122101